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ABSTRACT

The impact and cultural implications of the French Minitel and Teletel system are discussed, and second language clasroom applications are examined. These electronic instruments were developed for nationwide transmission of computerized data using small television-like terminals connected by modem to existing telephone circuits. Wise marketing decisions that ensured the success of Minitel and Teletel include: (1) the free use of the terminals as soon as the local directory comes on-line; (2) low-cost access to the on-line telephone directory; (3) well-coordinated services and databanks; and (4) user rates based only on connection time, not distance. A series of seven team-oriented activities exploiting the introductory materials given to new Teletel and Minitel subscribers are outlined. These include activities for giving demonstrations, problem-solving, data seeking, communicating with a service provider, creating a service, message transmission via electronic mail, and conversation and discussion. Early response to the system in France, resulting changes, and its future are also examined. (MSE)

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PLUS ÇA CHANGE: MINITEL AND TELETEL, ELECTRONIC MARVELS WITH LANGUAGE TEACHING POTENTIAL

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The French Minitel and Télétel are children of the marriage between economic necessity and technological progress. As children will do, they've been growing quickly, aided by innovative marketing techniques and loving care from an ever expanding segment of the French public. For a while, they were in danger of remaining enfants terribles, but lately they seem to be developing a remarkable stability which carries with it the promise of a bright future.

In this presentation I will discuss aspects of Minitel and Télétel which relate to private rather than to commercial use for two reasons: First, the range of terminals and services available to companies is extensive and analysis here would quickly become highly technical. Secondly, we are interested primarily in the impact of Minitel and Télétel on general French culture rather than on their contribution to corporate evolution. Nevertheless, the effects of telecommunications on the business and industrial sector in France are important and I hope to make them the subject of a future presentation.

Minitel and Télétel were developed in the late 1970's and tried experimentally in the early 1980's by la Direction Générale des Télécommunications, now called France Télécom, a branch of the government run Postes et Télécommunications. Both Minitel and Télétel are part of what the French call la télématique, that is, the transmission of computerized data from station to station using small television-like terminals connected to existing telephone circuits by means of a modem. Although technically complicated, the system can be reduced rather easily to its essential elements. the Minitel, a small dark-beige cube with a foldout keyboard, is hooked to the normal telephone line called le réseau téléphonique commuté or RTC. Service providers (les fournisseurs de services), ranging from France Télécom itself to department and grocery stores, are linked to TRANSPAC, a vast computerized data bank network activated in 1978. the telephone network (RTC) and TRANSPAC are then linked by les Points d'Accès Vidéotex (PAVI), which make interaction between user and provider possible.[1]

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The French Minitel terminal and Télétel system are not unique in Europe and were originally in competition with the British Prestel and the German Bildschirmtext, but the French have been the most successful by far in the development and popularization of their brand of télématique. Why did la Direction Générale des Télécommunications decide to introduce la télématique in the public sector in spite of the financial risks involved? The first reason related to competition within the European community. The British and Germans were going ahead with their telecommunications projects, and France had to follow suit or lose a potential market edge in Europe. The second impetus for introducing la télématique in France was budgetary. The French telephone system, long a target of both humor and invective, was being rapidly updated in the late 1970's and increasing numbers of customers necessitated the printing of ever larger and more expensive telephone directories. More customers also meant more employees, and la DGT found its overhead costs mounting exponentially. Finally, a market test of the Télétel system in the city of Vélizy in 1981 and 1982 was extremely successful and convinced la DGT that the general public would be receptive to the new system.[2]

The success of Minitel and Télétel rests on four marketing decisions which are as simple and practical as they are brilliant. First, telephone subscribers may use the basic Minitel terminal free of charge in place of the paper directory. When l'annuaire électronique (the electronic telephone directory) becomes available in a particular area (the so-called zones émeraudes), subscribers are invited by mail to pick up their rent-free units at a local distribution center. L'annuaire électronique contains the equivalent of the white and yellow pages for all of France, not just for the region in which the subscriber lives.[3] Second, the first three minutes of access to l'annuaire électronique are free and terminal time in excess of three minutes costs .73 F (about 13 cents) every two minutes.[4] Customers thus have a strong stimulus to opt for the Minitel and l'annuaire électronique and have done so in record numbers. By the end of February, 1988, France Télécom had distributed three and a half million units to homes and businesses and private use of Minitel accounted for 70% of Télétel traffic.[5]

The third crucial marketing decision accounting for the success of Minitel and Télétel relates to the services which complement l'annuaire électronique, and a brief explanation

of their characteristics is appropriate here. All service providers are grouped electronically in a series of computerized data banks called centres serveurs. Customers reach the appropriate centre serveur by dialing a general access number followed by the personalized code of the service they want to contact. The number 36.15 (also called Télétel 3) links callers to les centres serveurs which are of the greatest interest to the public at large and it is here that the French again revealed their marketing skill. Dubbed le kiosque because it was originally dominated by the newspaper industry, the 36.15 benefits from a unique and simplified billing system not systematically applied to the other access numbers. Customers using Télétel 3 are charged for the time used and total charges are included on their regular telephone bills. Service providers do not pay for the right to inform customers and, in fact, France Télécom reimburses them at the rate of 37 F an hour for participating in the system.[6] This equitable billing procedure, called le système kiosque, is the third innovative marketing strategy and is primarily responsible for the high volume of traffic on the 36.15 exchange because it offers maximum convenience to both user and provider. The user does not have to formally subscribe to the services and providers can direct their capital to the creation of increasingly imaginative services.[7] Indeed, the role of le système kiosque as the decisive factor in the outstanding growth of la télématique française is succinctly described by Catherine Bertho, who says that "il est bien probable que l'adoption de ce mode de facturation, qui est l'une des grandes différences entre le système français et ses homologues étrangers, a été décisive dans le succès du Minitel auprès du grand public."[8]

By May 1987, le kiosque accounted for 60% of customer calls made on the entire Télétel system, and France Télécom paid service providers 822 million francs in total for the year 1986.[9]

A fourth and final innovation is worthy of mention here. User rates for the entire Télétel system are a function of connection time only, not of distance. Callers are therefore not penalized for contacting services anywhere in France and this feature has given the system a universality and customer appeal lacking in the regionally- oriented British and German networks.[10]

Having discussed the development and organization of Minitel and Télétel, I would now like to describe some of the services which have proven attractive and useful to the

general public. No list can be complete, however, since new services are added daily. The services are of two basic types, passive and interactive. Passive services are discrete "packets" of information which appear on the screen when Minitel users follow the correct series of computerized commands. Seen in this way, the terminal is primarily a means of consultation, a source of documentation which subscribers will eventually act upon. All information in l'annuaire électronique obviously falls into this category, but users can also view transportation schedules, public service announcements, personal bank account statements, newspaper articles, want ads, schedules for sports and leisure activities, health care advice, department store and supermarket sales, etc. Service providers advertise their special codes in the media and in mailings. Télétel is also interactive, meaning that users can "dialogue" with many services by acting upon or manipulating information appearing on the screen. Thus they can make train, plane or bus reservations, rent a car, plan a trip, transfer money from one account to another, place catalogue orders of various kinds, receive personalized advice -- all without leaving the confines of home or office.

The most popular interactive features of Télétel are the message services, the so-called messageries, which allow users to correspond with each other in delayed time through electronic mailboxes or in real time from terminal to terminal.[11]

The ability to send and receive messages anonymously through the use of personal codes has given rise to les messageries roses, or sexually explicit communications, which have brought as much notoriety as they have consumer traffic to Télétel.[12] I will discuss the importance of les messageries roses later in this presentation, when I assess the potential social implications of Minitel and Télétel.

By expanding electronic communications in France both qualitatively and quantitatively, Minitel and Télétel have enriched the vocabulary normally associated with the telephone and have introduced new and important procedures for interpersonal (and impersonal) contact. As French teachers, we ought to recognize the language learning value of Minitel and Télétel and incorporate them into our lessons on telephone usage. The major problem which arises when we try to familiarize students with Minitel is that it is not possible to bring the actual terminal into the classroom and, even if this were feasible, the machine would not be functional, since the Télétel system cannot be activated in

the United States.[13] Nevertheless, the printed instructions for using Minitel and Télétel offer a wealth of pertinent vocabulary which complements that of telephone usage -- vocabulary that is becoming as essential for everyday communication in France as that of the telephone. In addition, the procedures for using the Minitel enable language teachers to introduce their students to valuable language-related activities (such as giving commands, correct completion of fixed logical patterns, question/answer sequences, and culturally-oriented textual analysis). Is such instruction worthwhile? I sincerely believe that it is for several reasons:

1. As we have seen, a significant part of la télématique française is oriented toward the general public, and its potential to affect daily life in France is considerable.

2. The Télétel system will soon be available everywhere in France, and this presents interesting possibilities for widespread use in a country with such a highly centralized administrative structure.

3. Minitel and Télétel are the most visible aspects of a technological evolution which has been unfolding in France for several years and which, driven by government objectives and by the European trade realignments promised after 1992, will continue to transform the country. It is important for students of French to understand that France is a country in transition and not the static or anachronistic society often depicted in their textbooks.

Since Minitel and Télétel are most properly considered as extensions of the telephone system, activities related to them should be interactive, and teamwork in the classroom is therefore ideal. I have identified seven types of team-oriented activities which may interest you and your students. Activities of the type described below can be tailored to fit the language background of the classes in which they are being used. Some procedures are obviously more important for lower level courses, while others could be adapted for use on the advanced level. In any case, individual instructors will be the best judges of the language mastery and cultural understanding necessary for each activity. Prior to initiating any of the seven activities to be discussed below, the instructor would distribute copies of materials normally given to new Minitel subscribers and which are in your handout pack. The

instructor would then review the document(s) pertinent to the activity to be undertaken, pointing out new vocabulary and emphasizing important procedures.

The seven activities are:

1. Demonstrations. The class is divided into pairs or small groups, and students in each group take turns demonstrating how to install the terminal, how to use the function keys, how to call a Télétel service. This could take the form of a role play in which one student is a France Télécom employee and the others are new Minitel subscribers who ask questions or request clarifications.

2. Problem Solving. Each student in a group states a problem encountered in using the Minitel terminal and invites appropriate solutions from the others. A student says, for example, "L'écran n'est pas allumé," and someone asks "Avez-vous vérifié le branchement électrique?" Another student says "J'ai besoin d'assistance," and a team member suggests "Appuyez sur la touche GUIDE." The possibilities here are almost endless, and students could use visuals or even props to illustrate the procedures they suggest.

3. Seeking Data. One unusual feature of l'annuaire électronique is that users need enter only partial information to retrieve complete data concerning the person or organization they wish to contact. Using as guides selected pages from a French telephone directory and printed instructions (both included in your handout pack), students within a group act out various methods of searching for their "target." As a preliminary step, students practice accessing the first page of l'annuaire électronique which is called la page d'accueil de service. Here are two question and answer sequences to serve as models:

   Recherche par le nom: Monsieur B recherche le numéro de téléphone d'une personne qu'il a rencontrée dans un café. Il ne se rappelle que le nom, la ville, et la rue du domicile de la personne.

   A: Quel est le nom de l'abonné(e) que vous cherchez?

B: Il s'appelle FAURE.

A: Alors, tapez son nom et appuyez deux fois sur la touche SUITE. Dans quelle localité habite-t-il?

B: Il habite à Chamalières.

A: Bon. Tapez le nom de la localité. Savez-vous son adresse?

B: Pas toute l'adresse, mais je sais qu'il habite dans la rue Belleville.

A: Cela suffit. Appuyez deux fois sur la touche SUITE, tapez le nom de la rue, et appuyez sur la touche ENVOI. Vous voyez maintenant une liste de tous les abonnés nommés FAURE à Chamalières. Il n'y a qu'un seul Monsieur Faure qui habite dans la rue Belleville.

B: Ah! C'est bien lui!
FAURE, Raymond 20, rue Belleville
73.35.56.74

Recherche par rubrique: Madame Y recherche le numéro de téléphone de l'agence Ford à Lezoux.

X: Quel est le commerce que vous cherchez?

Y: C'est le Garage Masse.

X: Bon. Appuyez une fois sur la touche SUITE et tapez la rubrique "garage d'automobiles." Dans quelle localité se trouve ce commerce?

Y: A Lezoux.

X: Alors, tapez une fois sur la touche SUITE et tapez ensuite le nom de la localité. Savez-vous le nom du département?

Y: Bien sûr, c'est le Puy-de-Dôme.

X: Très bien. Appuyez une fois sur la touche SUITE, tapez le nom du département, et appuyez sur la touche ENVOI.

Y: Quel petit miracle! L'agence que je veux est à la liste proposée!
MASSE, Jean garage Ford agent Croix Chadeyras
73.73.03.78.

4. Communicating with a Service. Le Guide du Minitel is a paperback directory of service providers. It gives the name of the service, a description of the product/service offered, the name of the provider and the access code. Minitel Magazine, a publication especially for Minitel users, provides similar information in its monthly issue. Each group in the class is assigned one service provider chosen from le Guide du Minitel or Minitel Magazine. For example, students might choose Nouvelles Frontières, a well-known French travel agency, and then work together to formulate questions they want to ask Nouvelles Frontières. Sample entries from le Guide and Minitel Magazine, including the one for Nouvelles Frontières, are included in your handout pack. The list of 200 services essentiels contained in le Guide du Minitel is an especially rich source of material for this activity because a detailed description is given for each service on the list. As an example, the description of SIDATEL (3615) includes questions concerning AIDS which students can use as models for their own questions.

5. Creating a Service: Groups exchange the lists of questions prepared during the previous activity and use

each list to design the type of message which would appear on the Minitel screen. Members of each group then read the questions and the resulting messages aloud.

6. Message Transmission via the "Electronic Mailbox": Each student within a group composes a message which he/she wants to leave in a friend's electronic mailbox. Messages are exchanged among the groups and answered. Students then take turns reading message and response sequences aloud.

7. Conversation and Discussion: Le Guide du Minitel and Minitel Magazine categorize services under a number of topic headings, including education, banking and finance, law, health, sports and leisure, etc. New vocabulary found in the description of each service could be isolated and explained in French. Cultural implications of this vocabulary could also be emphasized. For example, analysis of services covered under the heading Réservation should give rise to discussions about the various means of travel available in France and the relative importance of each. Students could then use new vocabulary in conversations. Word families are especially important in this type of activity. For example, the word règlement suggests régler; remboursement leads to rembourser, etc. The work students have done in Activity 4 (Communicating with a Service) would be an excellent basis for conversation and discussion.

The activities I have proposed above offer students the chance to use a wide range of authentic vocabulary in culturally accurate contexts. Instructor imagination is the key to success here, and I hope you will take the time to design your own lessons based on my suggestions and on the printed material in your handout pack.

Now that I have traced the development of Minitel and Télétel and have shown how they may serve as language-learning tools, I would like to discuss their potential impact on French society. We have already seen that, in purely quantitative terms, la télématique has been very successful in France. More than three and a half million terminals have already been given out, and telephone customers are requesting units at a rate of 80,000 to 100,000 a month. Non-professional use has leveled off at seventy percent of all units in service, while the business sector accounts for the other thirty percent. Minitélistes

use their terminals an average of about eight minutes per month.

However, the popular acceptance of Minitel and Télétel has been endangered by two phenomena which are worthy of note here. Jacqueline de Linares describes the first by underscoring the essential flaw in the original marketing and publicity efforts aimed at the general public:

> Menée tambour battant, selon une tradition technocratique bien française après des expérimentations limitées, la mise en oeuvre de l'opération télématique domestique avait omis l'essentiel: analyser en profondeur les besoins du grand public pour savoir ce que feraient les Français munis de leur terminal vidéotex.[14]

What French minitélistes did do, beginning as early as the experimental period in Vélizy in 1981 and 1982, was to exploit the Minitel's potential for amusement, and things quickly got out of hand.[15] Paying by the minute to play video games was bad enough in the opinion of the more sober-minded, but the instant success of les messageries roses or messageries conviviales set the world to clucking about French decadence and gave the Minitel a reputation - in France and abroad - as a mere toy for the erotic-minded.[16] The French government, invoking the citizen's right to privacy and to personal freedom, adamantly refused to impose any type of control on les messageries roses,[17] but two forces have begun to bring equilibrium to le kiosque. The first is a sort of "sticker shock," which has had a sobering effect on customers who forgot that, sooner or later, the piper would have to be paid. While there still are Minitel addicts, they are becoming a distinct minority, and minitélistes have begun to make more prudent use of Télétel 3.[18] Service providers themselves are the second source of constraint on the "Wild West" atmosphere of le kiosque. Somewhat belatedly, they have come to the conclusion that quality and variety are the best weapons in the battle to insure the integrity and heightened profitability of Télétel 3. Indeed, many observers feel that le kiosque will reach its full potential only when the influence and notoriety of les messageries roses diminish.[19] Martine Azoulai concludes that "l'équivalent 36.15 = sexe a rendu quelques services non-négligeables, comme la banalisation de la télématique dans le grand public. Mais, pour être réellement pris au sérieux, le Minitel doit aussi faire savoir qu'il a d'autres usages, convenables sous tous rapports."[20]

The second phenomenon which seemed to endanger a more widespread acceptance of Minitel and Télétel by non-commercial users is what might be called the "cupboard syndrome," and it simply means that a significant number of Minitel terminals (perhaps as many as forty percent of the total distributed) are going unused by those who opted to take them home.[21] While several reasons for subscriber apathy come readily to mind (telephone bills inflated by Télétel connection time, indignation over les messageries roses, imprecise or incomplete marketing research by France Télécom at an earlier period), a more basic problem seems to be that minitélistes habitually undervalue important services offered or are simply unaware of their existence. As early as 1985, a survey conducted by l'Association Française de Télématique revealed that 50% of the 1,078 persons questioned claimed that they had insufficient information and 60% said they had no information at all concerning the services available.[22]

In the face of customer apathy and excesses on le kiosque, both France Télécom and the service providers have begun to develop more precise marketing strategies for the 36.15 exchange. As a first step, France Télécom has begun to attract additional advertising to l'annuaire électronique.[23] I feel that this is important, both because subscribers will have added reason to use their Minitel and because the ads will refer them to services on the 36.15 and other Télétel access numbers. The French telecommunications agency is also encouraging service providers to band together and to adopt the aggressive advertising methods of les messageries roses, a sort of call to "fight fire with fire."[24] Finally, France Télécom may soon stop its free distribution of the basic Minitel terminal. A monthly rental fee or user tax on the unit may reduce its appeal as a mere gadget and keep it from those who have no intention of using it regularly.[25]

For their part, service providers had already begun to make demands on France Télécom as early as 1985, most notably with regard to the rate structure of le kiosque. They felt that a rate hierarchy determined according to the importance of the service offered would attract more worthwhile services to le kiosque, thus diversifying the clientele and providing competition for les messageries roses. Their lobbying efforts resulted in the inauguration of a tiered rate structure in 1987.[26] It is also important to note that advertising agencies specializing in the restricted format of Minitel are becoming adept at helping service providers make optimum use of the videotex screen.[27]

All in all, Minitel and Télétel seem to have come through the worst of the turbulence and even profited from the unpleasant ride. By May, 1987, les messageries had fallen slightly behind both l'annuaire électronique and other forms of recreational use in total traffic on the 36.15, and statistics suggest that their notoriety far outstrips their actual importance among minitélistes.[28] Moreover, customer demand has leveled off at between 80,000 and 100,000 units per month, causing France Télécom to invest even more heavily in new commercial and professional markets for more advanced spinoffs of the basic terminal.[29] My own feeling is that Minitel and Télétel will endure and prosper in the non-commercial (popular) market for several reasons:

1. Minitel and Télétel are exceedingly handy and their interactive features are practical and time saving.

2. Public reaction to innovation is not always predictable and may at first take the form of apathy or even rejection. The telephone, the automobile and the airplane were all scorned by at least a part of the population as unnecessary gadgets in the beginning.

3. The centralized structure of French bureaucracy must not be underestimated in the story of la télématique française. Possibilities for user access to state-run agencies are almost endless. Already students may register for lycée and university courses by Minitel, and services are now available to help students prepare for the inevitable nationalized exams.[30] In the end, Minitel and Télétel may play a significant role in lightening the traditional bureaucratic burden of the French.

As a conclusion, I would like to make several predictions concerning the impact of la télématique populaire on life in France:

1. Despite present claims to the contrary, the P. et T. will eventually abandon its paper telephone directory in favor of the less costly and more easily updated electronic one, thus ensuring almost universal distribution of Minitel and guaranteeing at least a modicum of connection time for most subscribers. This is probably wiser than penalizing those who opt for the unit by charging them a rental fee. Signs of this evolution are already visible. Minitel units are now available in many post offices and Minitel booths have

begun to appear in certain cities.[31] It is worth noting, too, that paper directories have all but disappeared from public telephone booths.

2. Gradual phasing out of the paper directory will also have sociological implications, because it will put pressure on the older generations to embrace the new technology and thus narrow the gap between those who have mastered its use and those who have not. We saw a similar progression as the telephone penetrated ever deeper into everyday life in Western countries.

3. Minitel and Télétel will be yet another impetus (along with the rapid evolution of French television) in the growing popularity of non print-based media in France. This conclusion may at first seem contradictory, since communication by Minitel is based on electronic transmission of the printed word, but the value of that printed word has been altered, even deformed. Devoid of style and enhanced by clever graphics, it is ephemeral, subject to manipulation at will, and bent to entirely pragmatic ends. It is also carefully targeted, crisp and direct. Are these not the failings and strengths of television in a nutshell?

4. Minitel and Télétel will have a favorable effect on the economic and cultural unification of Europe due to begin in 1992. Plans are well under way to link Spain and Germany to French Télétel, and I believe other E.E.C. countries will join the system - Europe's most successful to date - by the end of this century.[32] Aside from the professional and commercial advantages of such a network, it will help to make the "new Europe" a reality for the ordinary person by permitting immediate access to a truly European data bank. We are, of course, left to wonder what the linguistic implications of a pan-European communications network will be.

However predictable or unpredictable their future may be, Minitel and Télétel, born in the late 1970's, enfants terribles of the early 1980's, and chastened young adults of today and tomorrow, are here to stay. For us as French teachers, Minitel and Télétel present yet another opportunity to familiarize our students with technological progress in France while adding to the linguistic competence they will need to integrate successfully into contemporary French society.

Notes

[1]"Télétel," France Télécom brochure; undated and unpaginated.

[2]Catherine Bertho, "l'Irrésistible Ascension du Minitel," l'Histoire, 104 (octobre 1987), 92-94.

[3]As of August, 1988, les zones émeraudes seemed to cover most of France.

[4]France Télécom printed information; undated and unpaginated.

[5]"Le Minitel pourrait ne plus être distribué gratuitement," les Echos, 15.084 (24 février 1988), 6.

[6]France Télécom printed information; undated and unpaginated.

[7]Bertho, 94.

[8]Bertho, 94.

[9]Isabelle Durieux, "le Boom du Minitel," la Vie française, 2189 (25-31 mai 1987), 32.

[10]Bertho, 94.

[11]Les messageries are grouped under Télétel 3 or 36.15, as described above. Subscribers use Télétel 5 (36.18) to communicate from terminal to terminal directly.

[12]Jacqueline de Linares, "Minitel, un jouet de six milliards," le Nouvel Economiste, 537 (18 avril 1986), 50.

[13]See "le Minitel entre aux USA sur la pointe des pieds," les Echos, 15.142 (26 mai 1988), 8. The American telecommunications company US West has signed an agreement with France Télécom to install a limited Télétel system on a trial basis in the United States. The experiment will be confined to one city, however, and will be essentially limited to distribution of the terminals and billing for time used. US West is prohibited by law from providing its own data bases. A recent mailing from MinitelNET Inc., of New York City offers a subscription service to the French Télétel network to residents of the United States. Subscribers can buy or rent the Minitel terminal or use a

special modem and Minitel emulation software with their personal computer. Subscription fees are probably too high for most classroom teachers.

[14]de Linares, 53.

[15]Durieux, 32.

[16]de Linares, 50, 52. By early 1986, 60% of all calls on the 36.15 (Télétel 3) were directed to les messageries and to game programs, a total of 42% of all Minitel traffic, excluding the use of l'annuaire électronique.

[17]Gérard Longuet, Minister of les Postes et Télécommunications until May, 1988, expressed strong opposition to government censure of Télétel 3. See "la Télématique fait le tri parmi les siens," Stratégies, 563 (25-31 mai), 8.

[18]Gérard Petitjean, "la Défonce en Minitel," le Nouvel Observateur (11-17 août 1986), 89.

[19]Martine Azoulai, "France Télécom lave plus blanc," Télématique Magazine, 22 (juin 1988), 60.

[20]Azoulai, 60.

[21]Fabien Gruhier, "'87, l'Année du Minitel," le Nouvel Observateur, 1156 (2-8 janvier 1987), 58.

[22]"Mais qui sont les utilisateurs du Minitel?," Libre Service Actualités, 1024 (2 mai 1986), 155.

[23]Isabelle Carrel, "le Onze, un sacré numéro," Télématique Magazine, 22 (juin 1988), 56.

[24]Azoulai, 60.

[25]les Échos, 24 février 1988, 6.

[26]Durieux, 33.

[27]Martine Azoulai, "le Minitel décoiffe les habitudes," Télématique Magazine, 22 (juin 1988), 57-60.

[28]Durieux, 32.

[29]Jean-Pierre Jolivet, "la Nouvelle Donne du Minitel," l'Usine moderne, 9 (3 mars 1988), 29.

[30]Véronique Prévost, "la Boîte à bachot," Télématique Magazine, 22 (juin 1988), 36-37. See also "Universités et lycées: les inscriptions par Minitel," le Figaro (18 mai 1988), 16.

[31]Nicole Géraudie, "le Minitel au coin de la rue," les Echos, 14.815 (4 février 1987), 31.

[32]See les Echos, 15.142 (26 mai 1988), 8, and "Accord franco-espagnol d'harmonisation des réseaux," le Figaro (18 mai 1988), 16.

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